SOV/96-59-6-2/22

AUTHORS: Deych, M.Ye., (Dr. Tech.Sci.), Kazintsev, F.V., Abramov, V.I., Kiselev, L.Ye. and Filippova, V.G. (Engineers)

TITLE: An Investigation of Turbine Stages with Long Blades of Constant Profile under Variable Conditions (Issledovaniye peremennogo rezhima turbinnykh stupenei s dlinnymi lopatkami postoyannogo profiliya)

PERIODICAL: Teploenergetika, 1959, Nr 6, pp 8-17 (USSR)

ABSTRACT: This article describes the results of tests on four single-row stages with relatively long blades of constant profile, fitted to an experimental turbine. The efficiency of single-row stages depends on a number of geometrical and operating conditions: the configuration, pitch and angles of installation of the blades, the ratio of the flow areas, the velocity ratio and the Mach and Reynolds numbers. The tests described here were made to study the influence of these factors on the efficiency. The stages had a d/ℓ ratio + 7.73 which is the limiting value for cylindrical blading. The four stages investigated employed two types of guide vanes (TS-1A and TS-2A) and two types of working blades (TR-2A and TR-3A).

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An Investigation of Turbine Stages with Long Blades of Constant Profile under Variable Conditions

The principal geometrical characteristics of the blading are given in Table 1. All the stages used welded diaphragms of 400 mm mean diameter with guide vanes 48 mm high and working blades 51.7 mm high. The measuring equipment used is briefly described. The stages were tested with ratios of back pressure to inlet pressure of 0.9 to 0.54, which corresponds to a Mach number range of 0.4 to 1.0. The tests were made with constant back pressure. The influence of diaphragm leakage on the efficiency and the degree of reaction at root and tip sections were investigated. The quantity of leakage steam ranged from 0.8 to 3.5% of the flow through the guide vanes. The influence of the Reynolds number on the stage characteristics was investigated in three of the stages, with Reynolds numbers ranging from 3×10^5 to 7×10^5. The maximum error in determining the stage efficiency was between 0.4 and 0.6%. The influence of compressibility on the stage efficiency and degree of reaction is then considered. Stage efficiency graphs as functions of velocity and pressure ratios are given in

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Fig 1: it will be seen that for each stage there is a pressure ratio that gives maximum efficiency. Values of the best pressure ratio, the highest efficiency, and the change in efficiency as the pressure ratio deviates from the optimum value, are tabulated in Table 2. The curves in Fig 1 show that the efficiency is fairly stable as the velocity ratio changes, indicating that stages with guide vanes type TS-2A have a flatter characteristic as a function of the velocity ratio. This is because the ratio of the blade area to the guide-vane area is lower and there is consequently more reaction in stages with these guide vanes. Curves of stage efficiency as a function of M_0 with constant velocity ratio are given in Fig 2a, and curves of efficiency as function of the available heat drop with the speed constant in Fig 2b. From consideration of these curves it is concluded that the stage efficiency is reasonably stable. Curves of the pressure distribution over the pitch of the guide vanes at the tip and root sections respectively are given in Figs 3a and 3b. Corresponding curves under static

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conditions and in the presence of a working wheel are given in Fig 3c. It will be seen that the static pressure field is very irregular. Graphs of the reaction at root and tip sections as a function of the velocity ratio are given in Fig 4. It will be seen that in most cases the reaction is negative at the blade roots. These tests were made in the absence of diaphragm leakage. The presence of negative reaction at the blade roots has no appreciable influence on the stage efficiency. The curves of distribution of reaction over the radius for stages KD-2-2A and KD-2-3A at various values of velocity ratio and constant pressure ratio are given in Fig 5. The curves were constructed from experimental values of the loss factors at different sections of the guide vanes and reaction in the root section, using formula (2). It will be seen that the agreement between the experimental and calculated values of reaction is satisfactory. Graphs of the relative difference of root and tip reaction as a function of the relative change in the velocity ratio are given in Fig 6. Over the range

of change of velocity ratio from - 0.2 to + 0.2 this relationship is given by formula (3). It was found that there is a certain range of Reynolds and Mach numbers and of diaphragm leakage for which formula (3) remains valid, as will be seen from the results plotted in Fig 6. Formula (3) can serve as a basis for two methods of designing stages with long blades operating under variable conditions, as is briefly explained. The influence of Reynolds number on the stage efficiency is then considered. A series of tests was made on the three stages. The influence of the Reynolds number was thereby evaluated in stages having different degrees of reaction at the root and middle sections. The test results, plotted in Fig 7, are discussed at some length. It is found that the influence of the Reynolds number is greatest when the velocity ratio is high. Graphs of the relationship between the maximum stage efficiency and the Reynolds number appear in Fig 8, and graphs showing the influence of the Reynolds number on the reaction at the root and tip sections of the three stages are plotted in

Fig 9. Graphs of the flow coefficients as a function of Reynolds number are plotted in Fig 10. The influence of diaphragm and leakage is then considered. In order to determine the influence of diaphragm leakage on the stage characteristics, steam was delivered from the steam chest to the space between the disc and diaphragm in amounts up to 5% of the main flow. Graphs of the changes in efficiency as functions of leakage are plotted in Fig 11. Graphs of tip and root reaction, and flow coefficient as function of velocity ratio and a graph of the influence of leakage on the change in stage reaction, are plotted in Figs 12a and 12b respectively. It is found that increase in Reynolds number and decrease in leakage reduces both root and tip reaction. The results of a detailed study of the flow structure in stage KD-2-2A are discussed. The main conclusions are that the ratio of the flow area of the working blades to that of the guide vanes has a considerable influence on stage efficiency. Alterations of the blade root reaction from + 5% to zero had little influence on the stage efficiency. The presence of low negative reaction

caused some reduction in stage efficiency. With increase in the compressibility (Mach number) the efficiency first rises and then falls. The optimum value of the Mach number depends on the stage geometry and particularly on the area ratio and the type of blades used. As the Mach number increases, so does the reaction. Detailed investigation of the flow structure showed that alteration of the area ratio alters the losses in the working blades and the discharge velocity loss. The flow was found to be very uneven at the outlet section of the guide vanes. It was established that over a certain range of Mach numbers, rotation of the runner has no important influence on the velocity distribution over the pitch of the guide vanes. It follows from this that stage calculations based on static steam tests on full-scale diaphragms are

An Investigation of Turbine Stages with Long Blades of Constant Profile under Variable Conditions

reliable provided that the Mach and Reynolds numbers are equal in the actual and model conditions.
There are 12 figures, 2 tables and 5 Soviet references.

ASSOCIATION: Moskovskiy energeticheskiy institut
(Moscow Power Institute)

ISHCHENKO, Aleksey Vladimirovich; KLIMOV, Boris Grigor'yevich; KODYK, Grigoriy Trofimovich; KOLOTOVA, Irina Savel'yevna; KRAUS, Leonid Andreyevich; ABRAMOV, V.I., otv. red.; SABITOV, A., tekhn. red.

[Inspecting and adjusting hoists] Reviziia i naladka pod"emnykh ustanovok. By A.V.Ishchenko i dr. Moskva, Gos. nauchno-tekhn. izd-vo litry po gornomu delu, 1961. 81 p. (MIRA 14:10)
(Mine hoisting)

LIPOV, Pavel Petrovich; TSITSIN, Mikhail Alekseyevich. Prinimala uchastiye VESELKOVA, K.S., kand.tekhn.nauk; ABRAMOV, V.I., otv.red.; GALANOVA, V.V., tekhn.red.; PROZOROVSKAYA, V.L., tekhn.red.

[Mining mechanic's handbook] Spravochnik mekhanika gorno-rudnykh predpriiatii. Izd.2., perer. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1961. 787 p.

(MIRA 14:6)

(Mining machinery)

DEYCH, M.Ye., doktor tekhn. nauk, prof.; TROYANOVSKIY, B.M., kand. tekhn. nauk, dotsent; ABRAMOV, V.I., inzh.; KAZINTSEV, F.V., inzh.; KISELEV, L.Ye., inzh.

Studying the partial admission in two-row speed stages. Energomashinostroenie 7 no.3:24-27 Mr '61. (MIRA 16:8)
(Steam turbines—Testing)

GORODETSKIY, P.I.; LUK'YANOV, Yu.M.; ABRAMOV, V.I.

Large BKTS-3 chamber centrifuge for modeling pressures under the effect of volumetric forces. Zap.LGI 44 no.1:44-47 '61. (MIRA 14:10)

(Centrifuges) (Rock pressure)

MIKHEYEV, Yuriy Aleksandrovich; FAYBISOVICH, Isaak L'vovich; ABRAMOV, V.I., otv. red.; PROZOROVSKAYA, V.L., tekhn. red.; BOLDYREVA, Z.A., tekhn. red.

[Mine electrician] Elektroslesar' uchastka shakhty. 3 izd. Moskva, Gosgortekhizdat, 1962. 527 p. (MIRA 15:5)
(Electricity in mining)
(Mining engineering--Handbooks, manuals, etc.)

S/096/62/000/006/005/011
E194/E454

26.2120

AUTHORS: Abramov, V.I., Engineer,
Troyanovskiy, B.M., Candidate of Technical Sciences

TITLE: Optimum characteristics of a turbine stage with partial admission

PERIODICAL: Teploenergetika, no.6, 1962, 31-34

TEXT: In designing the regulating stages of steam turbines and stages of gas and steam turbines with low volume throughput using partial admission, selection of the angle of arc over which admission should take place is an important problem. Existing methods of calculation have various disadvantages such as incorrect distribution of losses with partial delivery and not allowing for twist in the nozzle blades and, in the case of impulse stages, the methods are based on obsolete combinations of blading. The method here described attempts to overcome these difficulties. The efficiency equation adopted and various simplifying assumptions are discussed. Losses with partial delivery are
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first investigated for the case when only a single delivery arc is used and the losses are considered not as the algebraic sum of a number of individual losses but rather as due to the interaction of various factors, this leads to the following formula which differs in structure from those usually adopted

$$\zeta_e = A \left(k_1 \frac{u/c_o}{d \sin \alpha_1} + k_2 \frac{1 - e}{e} \right) \left(\frac{u}{c_o} \right)^2 \eta_{f.a.}$$

where $\eta_{f.a.}$ - efficiency of the stage with full admission except friction loss due to disc and banding; u/c_o - velocity ratio; e - the admission angle ratio; d - the mean stage diameter; α_1 - the nozzle blading inlet angle; A, k_1 and k_2 - numerical coefficients that depend on the type of stage. Ohlsson's formula (Partial admission, low aspect ratios and supersonic speed in small turbines, Thesis Mit, 1956) is used if there is more than one arc of delivery and a formula of P.Suter and W.Traupel is used to correct for the presence of a casing. It is then found that the maximum internal efficiency corresponds to the

Optimum characteristics ...

admission angle ratio

$$e_{opt} = k\sqrt{el_1}$$

l_1 being blade length in mm. The value of k depends on the type of stage and the percentage reaction of the blading. It is given in the form of experimental curves and typical values for a single row stage with straight blades lie between 0.16 with a velocity ratio u/c_o of 0.30 and 0.25 with a velocity ratio of 0.50; if twisted blades are used the corresponding values are 0.19 and 0.28. Thus, with a stage diameter of 1 m, an inlet angle of 15° and $u/c_o = 0.5$, it becomes inadvisable to use the normal type of partial admission with blade heights of 14 to 15 mm, and for stages with twisted blades with blade heights of 11 to 12 mm. This is in agreement with experiment. Within normal limits the inlet angle and blade width have little influence on the results but the influence of stage diameter is more complicated and is discussed at some length. Simultaneous selection of optimum admission angle ratio and percentage reaction for a given blading area and diameter is considered. As it is

not always possible to use the optimum admission angle ratio, curves are given of efficiency decrease on departing from the optimum value. Although the curves given in the article for the optimum characteristics of single row stages and impulse stages with partial steam delivery are not universal, they should be of assistance in turbine design although further experimental work could undoubtedly lead to minor improvements. There are 5 figures.

ASSOCIATION: Moskovskiy energeticheskiy institut
(Moscow Power Engineering Institute)

ARSHINSKIY, V.M.; BAGAUTINOV, G.A.; BESPALOV, M.V.; GASPAROVICH, P.I.; GOLOMIDOV, I.N.; GOLUBOV, G.B.; GRIN, L.T.; ZEL'SKIY, S.A.; IL'INYKH, A.F.; KOZIN, V.Z.; KRYUKOV, V.P.; KULAKOV, S.N.; LUKAS, V.A.; MINEYEV, V.A.; PETROV, Yu.S.; PIRUSHKO, M.G.; PROKOF'YEV, Ye.V.; REBETS, B.A.; STARTSEV, N.V.; TROP, A.Ye., prof.; KHRAMOV, V.A.; ABRAMOV, V.I., otv. red.; PROZOROVSKAYA, V.L., tekhn. red.; BOLDYREVA, Z.A., tekhn. red.

[Handbook on electric equipment for mines] Spravochnik gornogo elektrotekhnika. Pod obshchei red. A.E.Tropa. Moskva, Gosgortekhizdat, 1962. 400 p. (MIRA 16:5)
(Electricity in mining)

RASPOPOV, Vladimir Ivanovich; ABRAMOV, V.I., otv. red.; BOLDYREVA, Z.A., tekhn. red.

[Handbook on the exploitation, maintenance and repair of the UKRL; rukovodstvo po ekspluatatsii, ukhodu i obsluzhivaniiu. Moskva, Gosgortekhizdat, 1963. 155 p. (MIRA 16:5)
(Coal mining machinery)

KOLENTSEV, Mikhail Timofeyevich; MASOVICH, Feliks Zinov'yevich; RYKOV, Boris Vasil'yevich; BLAGOVESHCHENSKIY Roman Viktorovich; ABRAMOV, V.I., inzh., otv. red.; BOLDYREVA, Z.A., tekhn. red.

[Coal cutter loader K56M] Ugol'nyi kombain K56M. Moskva, Gosgortekhizdat, 1963. 134 p. (MIRA 17:3)

AVRAMOV, V.I., inzh., otv. red.; BOLDYREVA, Z.A., tekhn. red.

[New mining machines] Novye gornye mashiny. Moskva, Gosgortekhizdat, 1963. 78 p. (MIRA 17:1)

KUDRYASHOV, Vadim Petrovich; ABRAMOV, V.I., otv. red.; IL'INSKAYA, G.M., tekhn. red.

[Mechanization of manganese ore mining] Mekhanizatsiia vyemki margantsevykh rud. Moskva, Gosgortekhizdat, 1963. 73 p. (MIRA 16:9)
(Manganese mines and mining--Equipment and supplies)

ALESENKO, Vasiliy Georgiyevich; KARA, Dmitriy Nikolayevich; ABRAMOV, V.I., otv. red.; PROZOROVSKAYA, V.L., tekhn. red.

[Problems on mining machines] Sbornik zadach po gornym mashinam; uchebnoe posobie dlia gornykh tekhnikumov. Moskva, Gosgortekhizdat, 1963. 119 p. (MIRA 16:7)
(Mining machinery)

DOKUKIN, Aleksandr Viktorovich, laureat Gosudarstvennoy premii, zasl. deyatel' nauki i tekhniki RSFSR, prof., doktor tekhn. nauk; MERMAN, Valerian Mikhaylovich, kand. tekhn. nauk; PONOMARENKO, Yuriy Filippovich, kand. tekhn. nauk; KUSOV, Yevgeniy Fedorovich, kand. tekhn. nauk; KOVAL', Yuriy Viktorovich, inzh.; KASHTANOV, Leonid Nikolayevich, kand. tekhn. nauk; ABRAMOV, V.I., ved. red.

[Centrifugal and displacement hydraulic transmissions and the prospects for their use in the mining industry] TSentrobezhnye i ob"emnye gidroperedachi i perspektivy ikh primeneniia v gornoi promyshlennosti. [By] A.V.Dokukin i dr. Moskva, Nedra, 1964. 369 p. (MIRA 18:2)

DEYCH, M.Ye., doktor tekhn. nauk; FILIPPOV, G.A., kand. tekhn. nauk; ABRAMOV, V.I., inzh.

Study of single-crown stages with partial steam supply. Teploenergetika 10 no.7:16-21 Jl '63. (MIRA 16:7)

1. Moskovskiy energeticheskiy institut.
(Steam turbines) (Gas turbines)

ABRAMOV, V.I., inzh.; KRAMEROV, A.Ya., inzh.; RYABOVA, G.N., inzh.; SURNOV, A.V., inzh.; KEMEL'MAN, M.N., kand. tekhn. nauk

Some experimental data on steam entrapment in the lowering section of a circulatory stage. Teploenergetika 10 no.8:46-50 Ag '63. (MIRA 16:8)

1. Moskovskoye otdeleniye TSentral'nogo nauchno-issledovatel'skogo kotloturbinnogo instituta imeni Polzunova.
(Boilers)

ABRAMOV, V.I.

Surveying instruments in Japan. Geod. i kart. no.12:62-67 D '63.
(MIRA 17:1)

ACCESSION NR: AP4022458 S/0128/64/000/003/0027/0031

AUTHORS: Khonkin, M. L. (Candidate of technical sciences); Levina, N. K. (Engineer); Spektorova, S. I. (Engineer); Abramov, V. I. (Engineer); Grishchenko, V. G. (Engineer)

TITLE: Study of some foundry alloys used in the production of high precision details

SOURCE: Liteynoye proizvodstvo, no. 3, 1964, 27-31

TOPIC TAGS: foundry alloy, high-precision machine detail, machine detail casting, AL2 alloy, AL9 alloy, VL15-1 alloy, ML5 magnesium alloy, steel, 35L steel, IKV vertical optimeter, ML10 magnesium alloy, dimensional stability

ABSTRACT: Measuring high-precision machine details showed that their dimensions changed with the progress of relaxation processes and of structural transformations in metals. In general, such machine details operate in the temperature range of -30C to 120C and under stresses not exceeding several kg/mm^2. The conditions necessary for the required dimensional stability of alloys AL2, AL9, VL15-1, ML5 and steel 35L were determined. All the samples were treated thermally, and their

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ACCESSION NR: AP4022458

deformation, stress relaxation, and the residual stress level were studied. The deformation was measured by a vertical IKV optimeter. It was established that the alloy VL15-1 had the greatest relaxation stability among the aluminum alloys and that the ML10 was the best in this respect among the magnesium alloys. A repeated heating-cooling process increased the dimensional stability of the samples, and the internal hardening (produced in the course of plastic deformation) increased the relaxation stability of alloys during the cyclic thermal treatment. It is concluded that the process to be used in securing dimensional stability must produce a stable structure and a proper state of relaxation not only in the separate details of an instrument but also in the assemblies of such details. Since additional stresses may be produced in the course of assembling, whole assemblies must undergo an additional repeated thermal treatment. This treatment should involve at least three heating-chilling cycles with a lower temperature range of -40 to -70C and an upper of 80-150C. Orig. art. has: 4 tables and 13 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 10Apr64 ENCL: 00

SUB CODE: ML NO REF SOV: 005 OTHER: 000

Card 2/2

KHENKIN, M.L.; BIZIN, A.A.; OBOLENSKIY, V.I.; ABRAMOV, V.I.

Raising the precision of investment castings in small-lot manufacture. Lit. proizv. no.6:3-6 Je '64.

(MIRA 18:5)

ABRAMOV, V.I.

Investigating the small Theo 120 theodolite. Geod. i kart. no.9: 28-34 S '64. (MIRA 17:12)

ABRAMOV, V.I., inzh.; YESINA, T.M., inzh.

Conversion of V-60-S equipment to operation with d.c. power supply. Vest. sviazi 25 no.3:5-7 Mr '65. (MIRA 18:5)

1. Glavnoye upravleniye mezhdugorodnoy telegrafnoy i telefonnoy svyazi Ministerstva svyazi SSSR.

KHENKIN, M.L.; LEVINA, N.K.; SPEKTOROVA, S.I.; ABRAMOV, V.I.; GRISHCHENKO, V.G.; Prinimali uchastiye: IVANOVA-EMIN, M.P.; GERASIMOVA, I.I.; TARDOVA, L.G.

Investigating some foundry alloys for high precision parts. Lit. proizv. no.3:27-31 Mr '64. (MIRA 18:9)

L 58502-65
ACCESSION NR: AP5010590

UR/0006/65/000/004/0030/0040
528.5:681.2(439.1)

AUTHOR: Abramov, V. I.

TITLE: New Hungarian geodetic instruments

12
13

SOURCE: Geodeziya i kartografiya, no. 4, 1965, 30-40

TOPIC TAGS: geodesy, geographic instrument

ABSTRACT: All Hungarian geodetic instruments are produced by the MOM Hungarian Optical Plant and the Gamma plant (Budapest) which, in collaboration with MOM, produces only engineering theodolites. MOM production includes five theodolites, one tachymeter, and four leveling instruments. Since 1952, all Hungarian geodetic instruments have been assigned individual letter and number designations which indicate their type and accuracy. In this system theodolites are designated as Te, tachymeters as Ta, and levels as Ni. Accuracy is denoted by letters of the alphabet, the highest accuracies being denoted by A. (Numerals following the letters are the series numbers of the models.) An instrument labeled Te-A, for instance, is a high-precision theodolite with micrometer divisions of 0".5 (not yet

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ACCESSION NR: AP5010590

manufactured in Hungary), a Te-B is a precise theodolite with optical micrometer scale graduations of 1", a Te-C is a theodolite with 10" readings, and a Te-E is an engineering theodolite with 5' graduations.

Photographs and descriptions are given for most of the instruments manufactured in Hungary, and the principal characteristics are tabulated in the following table.

Instrument	(Telescope) Magnification	Lens diameter, mm	Angle of field	Length of telescope, mm	Shortest sighting distance, m	Circles—horiz./vert. Diameter, mm	Graduations	Reading accuracy	Sensitivity of levels	[illegible]	Weights, kg: instrument	[illegible]	case
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	30	40	[illegible]	[illegible]	2.5	[illegible]	[illegible]	[illegible]	[illegible]	235	5.5	1.2	3.7
Te-E1 +	25	40	[illegible]	175	2	84/72	[illegible]	[illegible]	20' 30'	200g	5.4	1.1	2.5
Te-E3 +	18	25	2	[illegible]	1.5	14/78	[illegible]	6	30' 30'	200g	4.9	[illegible]	2.3
Tachymeter	20	29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30'	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ni-A1 +	30, 32 & [illegible]	63	1.1	[illegible]	[illegible]	[illegible]	[illegible]	6	30'/30'	200g	6.3	1.1	[illegible]
Ni-B1 +	20	40	1.4	302	2.5	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ni-B3	25 & 30	45	1.3	164	1.2	78 —	[illegible]	[illegible]	10"	140	4.5	1.2	2.95
Ni-D1	18	91	2.0	273	3	20 —	[illegible]	[illegible]	20'	137	1.8	1.9	1.7
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.5	[illegible]	[illegible]	[illegible]	compensator	139	1.3	1.1	2.3

Symbols: g - horizontal axis, d - wooden case

Illustrations: + - photo, x - diagrams [illegible]

L 58502-65
ACCESSION NR: AP5010590

"A brief description and photograph of a Soviet, gallium arsenide, laser geodimeter, the GD-314, are given in Nauka i zhizn', no. 5, 1965, p. 92. The instrument is capable of measuring distances up to 2000 m with an accuracy of 2 cm. There is also a photograph of the instrument in Priroda, no. 5, 1965, p. 89.
[illegible] art. has: 13 figures, 1 table.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: ES

NR REF SOV: 001 OTHER: 001 PSB v. 1, no. 8

Card 1/1

L 4062-66 EWT(d)/EWT(l)/EWP(v)/T/EWP(k)/EWP(h)/EWP(l)/ETC(m) WW/GW

ACC NR: AP5026465 SOURCE CODE: UR/0006/65/000/010/0043/0045

AUTHOR: Abramov, V. I. 27 B

ORG: none

TITLE: Standards for leveling rods

SOURCE: Geodeziya i kartografiya, no. 10, 1965, 43-45

TOPIC TAGS: surveying instrument, scientific standard 14

ABSTRACT: On 15 February 1965, the State Committee for Standards, Measures and Measuring Instruments SSSR approved State Standards 11158-65 "Rods, leveling. Types, basic parameters and technical requirements" to go into effect 1 Jan 65. There has been no standard of this type previously in the Soviet Union. In addition to establishing the necessary types of leveling rods, the new specifications contain a number of requirements aimed at improving the accuracy of marking the graduations on the rods and making the instruments more durable. To allow time for improving manufacturing and graduation equipment, some of the more rigid requirements for marking the graduations on the rods will not go into effect until 1 Jan 67. At

Card 1/2 UDC: 528.541.82

L 4062-66
ACC NR: AP5026465 O

that time the Soviet Union will have effective standards for leveling rods in line with those presently in force in East Germany and ahead of those which now apply in West Germany. The new specifications will permit the use of plastics in making leveling rods. Orig. art. has: 2 figures.

SUB CODE: ES,GO/ SUBM DATE: 00/ ORIG REF: 001/ OTH REF: 000

BVH
Card 2/2

PHASE I BOOK EXPLOITATION SOV/4661

Abramov, V.K.

Chelovek i tekhnika v sovremennoy voyne (Man and Technology in Modern Warfare) Moscow, Voyenizdat, 1960. 103 p. No. of copies printed not given.

Ed.: A.V. Golunov, Colonel; Tech. Ed.: V.Ye. Volkova.

PURPOSE: This book is intended for Soviet army and naval officers.

COVERAGE: The book, based on materials published in the Soviet and non-Soviet press, examines the basic features of war technology and the decisive role of man in war. The opinions of military exponents of the so-called "imperialist ideology" on modern warfare are criticized. No personalities are mentioned. There are some references in footnotes.

TABLE OF CONTENTS:

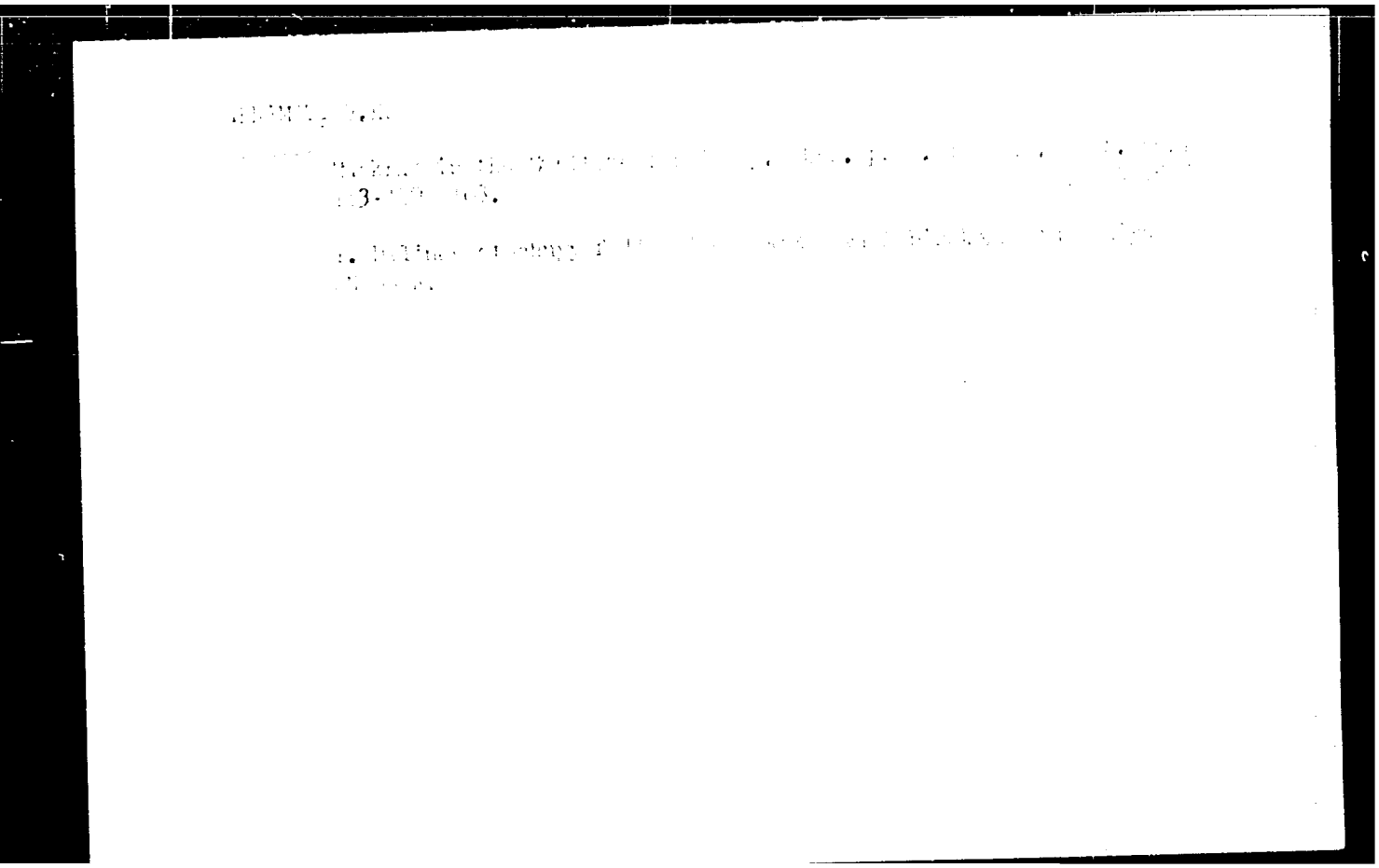
Card 1/2

CHERVINSKIY, A.A., kand. med. nauk; POLIKARPOV, M.Ya.; ABRAMOV, V.K.

Phlebographic methods of determining the operability of pulmonary cancer. Khirurgiia 41 no.4:13-17 Ap '65.

(MIRA 18:5)

1. Kafedra khirurgii (zav. - prof. B.I. Fuks) Novokuznetskogo instituta usovershenstvovaniya vrachey.



SAMSONOV, Georgiy Nikiforovich; EL'KIN, Iosif Lazarevich; MERKULOV, Nikolay Yakovlevich; BOGUTSKIY, Nikolay Vasil'yevich; KAZAKOV, Stanislav Semenovich; IVANOV, Ivan Konstantinovich; ABRAMOV, V.I., inzh., otv. red.

[The K-52M (1K-52M) narrow-cut cutter-loader] Uzkozakhvatnyi kompleks K-52M (1K - 52M). Moskva, Nedra, 1964. 207 p. (MIRA 18:4)

ABRAMOV, V. L.

Journal of the Iron and Steel Institute
Vol. 176
Apr. 1954
Analysis

6

(3)

Spectral Method for the Quantitative Determination of Silicon and Carbon in Malleable Cast Iron. V. L. Abramov, V. T. Bogdanova, and K. I. Taganov. (Zavodskaya Laboratoriya, 1950, 16, (10), 1218-1224). [In Russian]. An account is given of the apparatus and procedure for the successive determinations of silicon and carbon in malleable cast iron. The effects of burning during sparking and of heat-treatment of specimens on the results are also considered in the light of metallographic data. Results of two series of determinations with annealed and unannealed specimens are presented showing the increase in the scatter due to annealing. Working curves for carbon and silicon in white cast iron are shown. The time required for a complete determination is said to be 20-24 min. S. K.

9-10-?1

ABRAMOV, Viktor Leonidovich; SMOL'YANINOVA, Lyutsiya Sergeyevna; FUDIM, Dmitriy Markovich; LIFKITSKIY, A.N., red.; GRANOVSKAYA, G.V., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[Making pattern foundry equipment from epoxy resins; from practices of the Lepse Fittings Plant in Leningrad] Izgotovlenie liteinoi model'noi osnastki iz epoksidnykh smol; iz opyta Leningradskogo armaturnogo zavoda imeni Lepse. Leningrad, 1962. 24 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Liteinoe proizvodstvo, no.3)

(Patternmaking) (MIRA 15:9)

ABRAMOV, V.M.; SERGIYEVSKIY, S.V.

Window block with precast reinforced concrete frames. Rats. i izobr. predl. v strei. no.135:9-12 '56. (MLRA 9:9)
(Windows)

ABRAMOV, V.M.

Effect of added masses on the dynamic loads in spur gears. Trudy Inst. mash. Sem. po teor. mash. 19 no.74:25-46 '59.

(Gearing, Spur) (MIRA 13:2)

YANCHENKO, V.F., kand. tekhn. nauk, dotsent; ABRAMOV, V.M., inzh.

Use of a model in studying steam turbine condensers.
Energomashinostroenie 9 no.10:20-23 O '63. (MIRA 16:10)

LIFSHITS, A.G., kand.tekhn.nauk; ABRAMOV, V.M., inzh.

Noiseless bubbler. Energetik no.9:9-10 S '64. (MIRA 17:10)

ABRAMOV, V.M., aspirant

Reliability of electron amplifiers with negative feedback.
Vest. TSNII MPS 24 no.1:20-24 '65. (MIRA 18:6)

ACCESSION NR: AP4031442 S/0231/64/000/002/0021/0026

AUTHOR: Abramov, V. M. (Aspirant); Ivin, L. F. (Engineer)

TITLE: A method for increasing the reliability of semiconductor amplifiers

SOURCE: Moscow. Vsesoyuzny*y nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta. Vestnik, no. 2, 1964, 21-26

TOPIC TAGS: amplifier, amplifier reliability, semiconductor, semiconductor amplifier, railroad, automatic control

ABSTRACT: The authors, noting the ever greater use of various types of transistorized a-c amplifiers in railroad automation and communication, point out that amplifier reliability can be increased by the introduction of constantly-operative reserve elements. Unification of the circuitry of the basic and stand-by amplifiers ensures the construction of a functional device, the output parameters of which will not substantially change in the event of a failure of any of its components. The advantages of this system of standby as opposed to standby through substitution are indicated (no need for switching elements and fault detecting

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ACCESSION NR: AP4031442

devices for placing the standby unit into operation, as well as no need to correct the defect immediately if it is present in one of the "doubling" amplifiers). The difficulty in a simple parallel connection of the amplifiers for amplifier standby (doubling) is noted and this method is rejected. In this article, the authors propose to increase the reliability of a-c semiconductor amplifiers by doubling the amplifiers through an adding device with the introduction of negative feedback; for example, in series. When designing such amplifiers, the rated value of the relative change in gain should be selected so that $\delta \leq 8 - 10\%$. The authors point out that in and of itself deep negative feedback is no evidence of high functional reliability on the part of the duplicated amplifier, since under given conditions spurious generation may arise at lower or higher frequencies. For this reason, the authors recommend that in each concrete case the band of stable amplifier operation be determined and the proper steps be taken to ensure stability. Orig. art. has: 8 figures and 18 formulas.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 30Apr64 ENCL: 00

SUB CODE: EC NO REF SOV: 003 OTHER: 000

Card : 2/2

ABRAMOV, V.M., aspirant

Doubling of transistor amplifiers. Vest. TSNII MPS 24 no.8: 42-45 '65. (MIRA 19:1)

ABRAMOV, V.M., inzh.

Positive sides of the organization of the American construction industry. Prom. stroi. 42 no.5:45-48, p.3 of cover '65.
(MIRA 18:8)

ABRAMOV, V.N., inzh.

Tabular method of constructing the geometry of cylindrical blades of pump rotors. Nauch. trudy Mosk. inst. radioelek. i gor. elektromekh. no.44:99-104 '62. (MIRA 17:9)

ABRAMOV, V.N.; KISELEV, A.V.; LYGIN, V.I.

Nature of adsorption by zeolites. Infrared spectrum of benzene adsorbed by zeolites of the type 13X and 10X. Zhur. fiz. khim. 37 no.5:1156-1160 My '63. (MIRA 17:1)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, khimicheskiy fakul'tet.

ABRAMOV, V.N.; KISELEV, A.V.; LYGIN, V.I.

Ultraviolet spectra of aromatic compounds adsorbed on an aerosil surface with varying degrees of hydroxylation. Zhur. fiz. khim. 37 no.12:2783-2789 D '63. (MIRA 17:1)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, khimicheskiy fakul'tet.

ABRAMOV, V.N., inzh.; GUSTAYTIS, B.S.

Industrial testing of a high-pressure ON-2M axial pump. Trudy VNIIGidrouglia no.4:80-85 '64. (MIRA 18:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut dobychi uglya gidravlicheskim sposobom.

ACCESSION NR: AP4039251

S/0032/64/030/006/0675/0675

AUTHORS: Abramov, V. N.; Fisak, V. I.

TITLE: Gas chromatography method for analyzing combustion products of a methane air mixture

SOURCE: Zavodskaya laboratoriya, v. 30, no. 6, 1964, 675

TOPIC TAGS: methane air mixture, combustion product, gas chromatography, chromatograph GSTL 3, silica gel ShSK, activated carbon AG 5, activated carbon SKTM D, vacuum pump RVN 20, recording apparatus EPP 09

ABSTRACT: The chromatograph GSTL-3 was altered (see Fig. 1 on the Enclosure) for analyzing combustion products of a 1% methane-air mixture. The alterations were introduced because of the difficulties of separating and detecting the gases with previously available apparatus. A tube 5.5 mm in diameter, 120 cm long, is filled with silica gel ShSK (0.25-0.50 mm grain) which absorbs carbonic acid gas. Another tube, 5 mm in diameter, 80 cm long, and filled with activated carbon of either AG-5 or SKTM-D brand (0.25-0.50 mm grain) absorbs the combustible components. The apparatus is calibrated by analyzing gases of known compositions. In operation

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ACCESSION NR: AP4039251

two samplers are filled with the mixture to be analyzed. The first step consists of connecting one sampler and turning the cock so as to determine the concentration of carbonic acid gas. Next, the other sampler is connected, and the cock is turned so as to permit the determination of the combustible components. Apparatus EPP-09 is used to record the detector signals. The entire process takes ≤ 3 minutes and produces results accurate to 1.5-2.0%. Gas amounts down to 10^{-3}% may be determined. Orig. art. has: 1 diagram.

ASSOCIATION: Institut energetiki Akademii nauk KazSSR (Institute of Power Engineering, Academy of Sciences, KazSSR)

SUBMITTED: 00 DATE ACQ: 18Jun64 ENCL: 00

SUB CODE: GC,IE NO REF SOV: 000 OTHER: 000

Card 2/3

ACCESSION NR: AP4034593 S/0076/64/038/004/1044/1047

AUTHOR: Abramov, V. N.; Kiselev, A. V.; Ly*gin, V. I.

TITLE: Infrared study of the adsorption of phenol, aniline and nitrobenzene on Aerosil and zeolite.

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 4, 1964, 1044-1047

TOPIC TAGS: infrared spectroscopy, adsorption, phenol, aniline, nitrobenzene, Aerosil, zeolite, molecular spectra

ABSTRACT: In this work a study was made of the change of the infrared spectrum of the hydroxyl groups on the surface of Aerosil, during the adsorption of phenol, aniline and nitrobenzene, as well as the IR spectra of these molecules themselves, upon the adsorption on Aerosil and zeolite. Fig. 1 shows the spectrum of Aerosil, evacuated at 400 C and the spectra after adsorption of phenol, aniline and nitrobenzene under saturated vapor pressure of these compounds at 25 C. Due to the overlap of absorption bands of the associated surface and intraglobular hydroxyl groups of Aerosil and phenol it is difficult to establish accurately the magnitude of the shift of the groups of Aerosil with respect to the absorption band of free

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ACCESSION NR: AP4034593

hydroxyl groups perturbed by adsorption of phenol hydroxyl. The magnitude of shift during adsorption of phenol is not more than 350 cm^{-1}. During adsorption of aniline the band lies aroung 3200 cm^{-1} and the shift is $\sim$550 cm^{-1}. During adsorption of nitrobenzene the band of perturbed free hydroxyl groups on the surface of Aerosil is completely masked. Therefore, one can only say that the shift is much less during adsorption of nitrobenzene than during adsorption of phenol and aniline ($\sim$150 cm^{-1}). The changes of IR spectra of the adsorbed molecules themselves are also shown in Fig. 1. The greatest changes are observed in the vibrational frequency of OH in the phenol and NH in the aniline. In the case of nitrobenzene no significant changes are observed. Changes of molecular spectra during the adsorption on zeolite are greater than during the adsorption on Aerosil. Orig. art. has: 1 table and 2 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova, Khimicheskiy facul'tat (Moscow State University im. M. V. Lomonosov, Chemistry Department)

SUBMITTED: 05Nov63 ENCL: 01

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ACCESSION NR: AP4034593

SUB CODE: GC NO REF SOV: 012 OTHER: 006

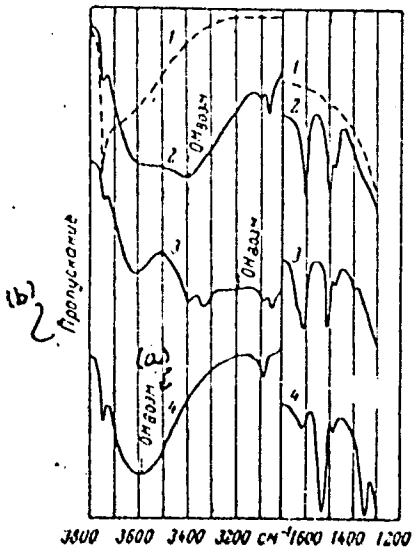
Card 3/4

ACCESSION NR: AP4034593

ENCLOSURE: 01

Fig. 1. Infrared spectrum of Aerosil

1) pumped down at 400 C after adsorption
2) phenol
3) aniline
4) nitrobenzene
a) OH excited
b) transmission



Card 4/4

ABRAMOV, V.N.; [illegible], A.V.; TYGIN, V.I.

Analysis of the vibrational spectrum of adsorbed ammonia.
Zhur. fiz. khim. 38 no.7:1867-1870 Jl '64.
(MIRA 18:3)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, khimicheskiy fakul'tet.

ABRAMOV, V.N.; KISELEV, A.V.; LYGIN, V.I. (Moskva)

Vibrational spectra and state of water molecules adsorbed on synthetic zeolites. Zhur. fiz. khim. 39 no. 1:123-128 Ja '65 (MIRA 19:1)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova, khimicheskiy fakul'tet. Submitted May 19, 1964.

ABRAMOV, V.O., nauchn. sotr.; CHAYKIN, O.F., nauchn. sotr.; ABATURIN, L.V., nauchn. sotr.; GAVRILOV, V.I.[Havrylov, V.I.], nauchn. sotr.; ALTAYSKIY, I.P.[Altais'kyi, I.P.], nauchn. sotr.; KAMINSKIY, O.IE.[Kamins'kyi, O.IE.], nauchn. sotr.; RUMYANTSEV, O.IE., nauchn. sotr.; SUKACH, P.V., nauchn. sotr.; VASIL'YEV, V.M.[Vasyl'iev, V.M.], nauchn. sotr.; KOTOV, G.G.[Kotov, H.H.], nauchn. sotr.; OBOLENSKIY, K.P.[Obolens'kyi, K.P.], nauchn. sotr.; SAVEL'YEV, Ye.O.[Savel'iev, IE.O.], nauchn. sotr.; MOTOV, S.I., nauchn. sotr.; RUSAKOV, G.K.[Rusakov, H.K.], nauchn. sotr.; YEVDOKIMENKO, V.P.[IEvdokymenko, V.P.], red.; SKVIRSKAYA, M.P.[Skvyrs'ka, I'.P.], tekhn. red.

[Economics of agricultural enterprises] Ekonomika sil'skokhospodars'kykh pidpriiemstv; navchal'nyi posibnyk. Kyiv, Derzhpolitvydav URSR, 1963. 469 p. (MIRA 16:10)

1. Kommunisticheskaya partiya Sovetskogo Soyuza. Vysshaya partiynaya shkola.

(Agriculture—Economic aspects)

ABRAMOV, V.P.; DEMBSKAYA, G.I.

New data on Mesozoic sediments in the northern part of the Pechora depression. Mat.po geol.i pol.iskop.Sev.-Vost.Evrop.chasti SSSR no.1:42-48 '61. (MIRA 14:11)
(Pechora Valley--Geology, Stratigraphic)

AKRAMOV, V.P.; BELKIN, V.I.; KHAYTSER, L.L.

Participation of the ice factor in the formation of Jurassic deposits in the northern part of the Pechora syneclise. Dokl. AN SSSR 139 no.6:1419-1422 Ag '61. (MIRA 14:8)

1. Vorkutinskaya kompleksnaya geologorazvedochnaya ekspeditsiya. Predstavleno akademikom N.M. Strakhovym.
(Pechora Basin—Geology, Stratigraphic)

L 31533-66 EWT(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(h)/EWP(l) IJP(c) GD/BC
ACC NR: AT6011935 SOURCE CODE: UR/0000/66/000/000/0158/0162

AUTHOR: Gorbunov, V.I. (Tomsk); Makarov, N.Ya. (Tomsk); Cheshev, V.V. (Tomsk); Abramov, V.P. (Tomsk); Voroshen', L.B. (Tomsk)

ORG: none

TITLE: Automatic quality control of very thick products

SOURCE: Vsesoyuznaya konferentsiya po avtomaticheskomu kontrolyu i metodam elektricheskikh izmereniy, 5th. Avtomaticheskiy kontrol' i metody elektricheskikh izmereniy; trudy konferentsii, t. 2: Izmeritel'nyye informatsionnyye sistemy. Ustroystva avtomaticheskogo kontrolya. Elektricheskiye izmereniya neelektricheskikh velichin (Automatic control and electrical measuring techniques; transactions of the conference, v. 2: Information measurement systems. Automatic control devices. Electrical measurements of nonelectrical quantities). Novosibirsk, Izd-vo Nauka, 1966, 158-162

TOPIC TAGS: automatic control system, quality control, betatron, x ray apparatus, flaw detector

ABSTRACT: The mass production control of very thick products requires the development of new, more efficient devices for the realization of satisfactory quality control. The present paper describes a BD-1 automated betatron flaw detector, a universal mobile device based on the B-25/10 betatron and presents a detailed outline of its automatic control. The device can carry out continuous plant control of steel products 50-500 mm thick and 0.5 to 8 m long. The

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ACC NR: AT6011935

test piece may have a complex configuration with a maximum drop in thickness along the irradiation direction of up to 100 mm. Experiments carried out at 25 MeV (radiation intensity 40-60 Roentgen/min) show that flaw detection is no worse than 0.3-1% of the maximum thickness of the sample. The productivity is at least 2 m^2/hour, the device requires a three-phase a.c. power supply, and it uses no more than 15 kW. The article describes the process of production control, outlines the automatic control system, and the X-ray photography system. Orig. art. has: 3 figures.

SUB CODE: 13,09 SUBM DATE: 29Nov65/ ORIG REF: 003

Card 2/2

ABRAMOV, V.S.; BLAZHEVICH, P.V., otv.red.; PEVZNER, A.S., zaveduyushchiy red.izd-va; SHERSTNEVA, N.V., tekhn.red.

[Uniform time and pay standards for construction, assembly, and repair operations in 1960] Edinye normy i rastsenki na stroitel'nye, montazhnye i remontno-stroitel'nye raboty, 1960 g. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam. Sbornik 14. [Well boring for water] Burenie skvazhin na vodu. 1960. 185 p. (MIRA 13:6)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva. 2. Normativno-issledovatel'skaya stantsiya (NIS) Ministerstva sel'skogo khozyaystva SSSR (for Abramov).
(Wages) (Boring machinery) (Wells)

ABRAMOV, V.S.

Surgical Clinic (head, Prof. A. N. Filatov) Leningrad Order of the Red Banner of Labor Institute for Blood Transfusion.

USSR/Human and Animal Morphology - Blood Transfusions and Blood Substitutes R-4

Abs Jour : Referat Zhur - Biologii, No 16, 1957, 70624

Author : Abramow, V.S.
Title : The Use of Plasma-Substituting Solu. of Hydrolysine for the Purpose of Operative Prophylaxis.

Orig Pub : Vestn khirurgii imeni GREKOVA, 1956, 77, No 11, 101-107

Abstract : 10-15 minutes, before operation, 51 patients were given intravenously 40-50 drops per minute 400-1500 ml of hydrolisine (incomplete acid hydrolisate of heterogenous proteins, with anaphilactogenic substances removed, and containing 4.5-5.5% protein). During the operation, the arterial pressure (AP) fluctuations did not exceed 10-20 mm. In rabbit tests, it was established that the trauma produced by 100 hits with a hammer on the hip muscles is fatal in control animals as well as in the ones with introduction of physiol. solu. By introducing the

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USSR/Human and Animal Morphology - Blood Transfusions and Blood Substitutes R-4

Abs Jour : Referat Zhur - Biologii, No 16, 1957, 70624

trauma into 14 rabbits while administering 20 ml/kg of hydrolysine, there was no appearance of a severe traumatic shock and AP dropped on the average to 22.3%.

Card 2/2

FILATOV, A.N., prof.; CHAPLYGINA, Z.A.; DEPP, M.Ye.; GREBENSHCHIKOVA, L.A.; ABRAMOV, V.S.; BLINOVA, A.I.; POVERGO, N.S.; LUGANOVA, I.S. (Leningrad)

Comparative study of some solutions made of heterogenous protein; L-103 solution and Belen'kii's serum. Klin.med. 35 no.7:47-53 Jl '57. (MIRA 10:11)

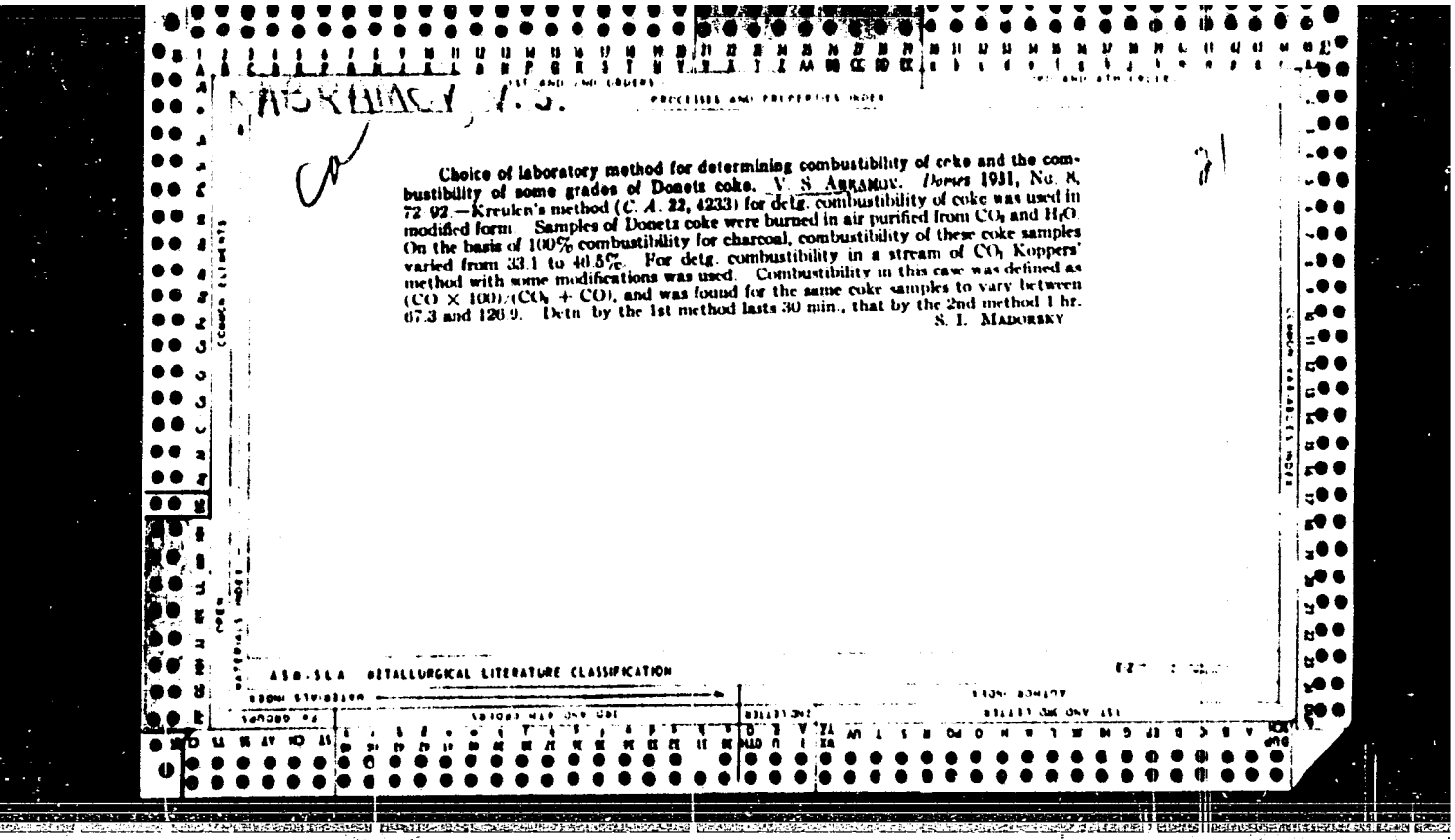
1. Iz Leningradskogo ordena Trudovogo Krasnogo Znameni nauchno-issledovatel'skogo instituta perelivaniya krovi. 2. Chlen-korespondent AMN SSSR (for Filatov).

(AMINO AICD MIXTURES,
protein hydrolysates L-103 & Belenkii's serum, comparison (Rus))

SHIBAYEV, V.M.; ABRAMOV, V.S.; elektromekhanik

Automatical radio control center for radio communication between trains. Avtom. telem. i sviaz' 4 no.9:37-39 S '60.
(MIRA 139)

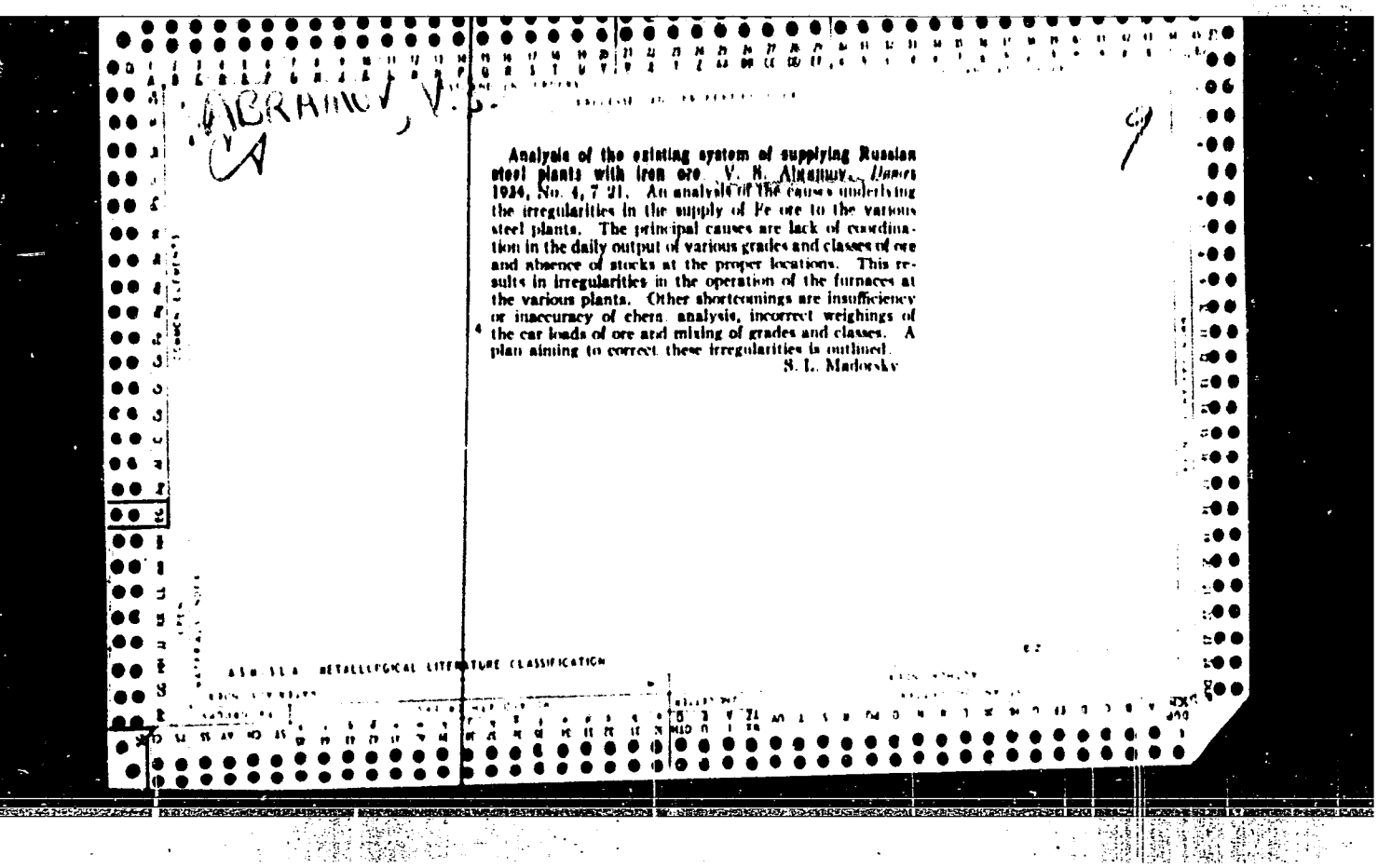
1. Starshiy inzhener Omskoy distantsii signalizatsii i svyazi Omskoy dorogi (for Shibayev).
(Railroads--Communications systems)



Choice of laboratory method for determining combustibility of coke and the combustibility of some grades of Donetz coke. V. S. Abramov. *Koks* 1931, No. 8, 72-92.—Kreulen's method (*C. A.* 22, 4233) for detg. combustibility of coke was used in modified form. Samples of Donetz coke were burned in air purified from CO_2 and H_2O. On the basis of 100% combustibility for charcoal, combustibility of these coke samples varied from 33.1 to 40.5%. For detg. combustibility in a stream of CO_2 Koppers' method with some modifications was used. Combustibility in this case was defined as $(CO \times 100)/(CO_2 + CO)$, and was found for the same coke samples to vary between 67.3 and 126.9. Detn. by the 1st method lasts 30 min., that by the 2nd method 1 hr.

S. I. Madorsky

A58-SLA METALLURGICAL LITERATURE CLASSIFICATION



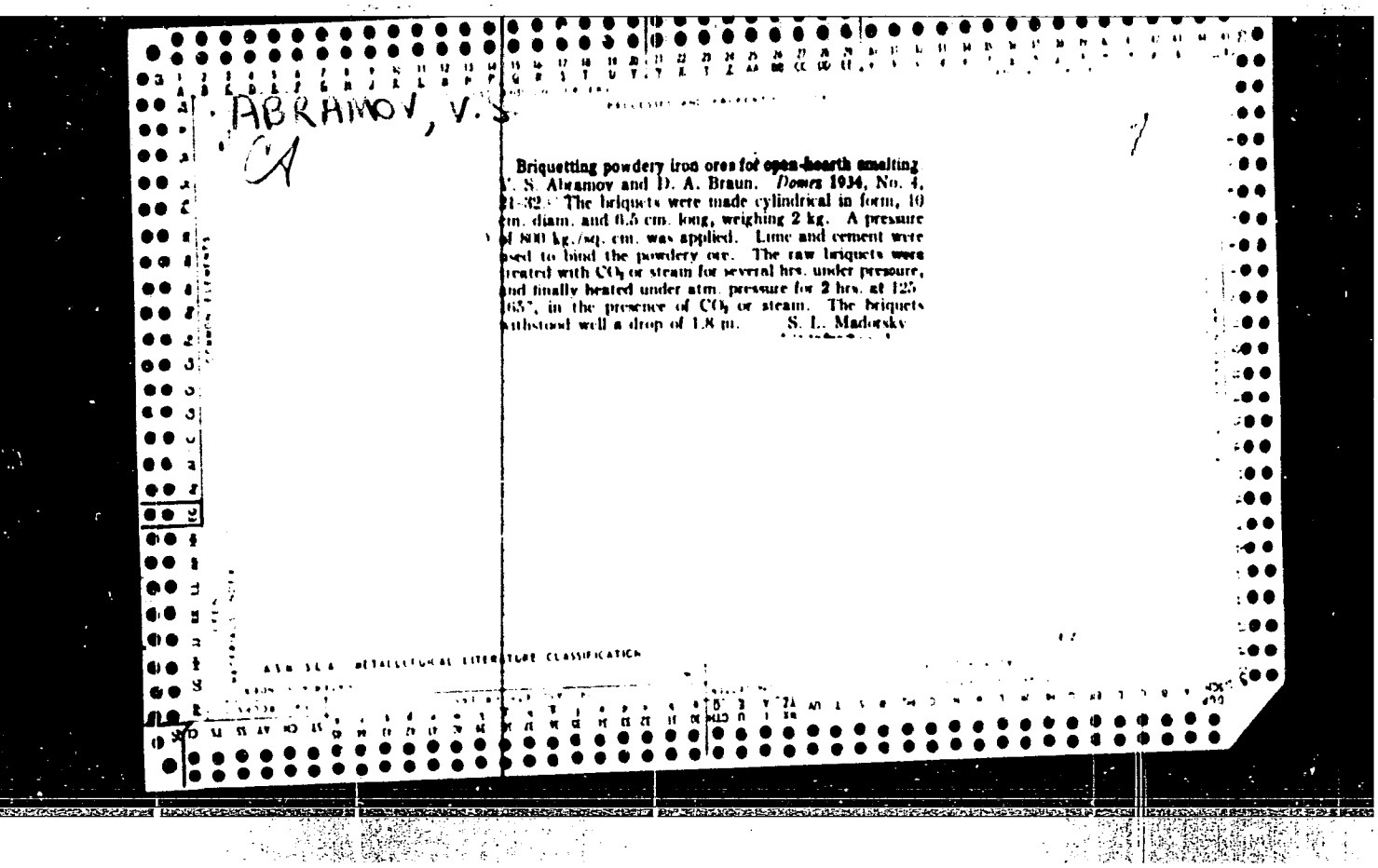
ABRAMOV, V. S.

CA

Analysis of the existing system of supplying Russian steel plants with iron ore. V. N. Abramov. *Chernye Metally* 1934, No. 4, 7-21. An analysis of the causes underlying the irregularities in the supply of Fe ore to the various steel plants. The principal causes are lack of coordination in the daily output of various grades and classes of ore and absence of stocks at the proper locations. This results in irregularities in the operation of the furnaces at the various plants. Other shortcomings are insufficiency or inaccuracy of chem. analysis, incorrect weighings of the car loads of ore and mixing of grades and classes. A plan aiming to correct these irregularities is outlined.

S. L. Madovsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



ABRAMOV, V.S.

CA

Briquetting powdery iron ores for open-hearth smelting. V. S. Abramov and D. A. Braun. *Domez* 1934, No. 4, 21-32.—The briquets were made cylindrical in form, 10 cm. diam. and 0.5 cm. long, weighing 2 kg. A pressure of 800 kg./sq. cm. was applied. Lime and cement were used to bind the powdery ore. The raw briquets were treated with CO_2 or steam for several hrs. under pressure, and finally heated under atm. pressure for 2 hrs. at 125-65°, in the presence of CO_2 or steam. The briquets withstood well a drop of 1.8 m. S. L. Madorsky

ASM SEA METALLURGICAL LITERATURE CLASSIFICATION

ABRAMOV, V. S.

9

Uniformalization of the quality of ore. V. S. Abramov. *Gornyi Zhur.* 125, No. 10, 26-31(1951). The unloading, storing, and loading of ore in a manner to provide a uniform furnace charge are discussed. M. Hosch

SOV/137-57-10-18597

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 17 (USSR)

AUTHOR: Abramov, V.S.

TITLE: New Developments in Preparing Ore for the Blast Furnace (Novoye v oblasti podgotovki rud k domennoy plavke)

PERIODICAL: Tr. Nauchn.-tekhn. o-va chernoy metallurgii, 1956, Vol 8, pp 14-28

ABSTRACT: In recent years, ore conditioning has been done on Robins screens, which have major shortcomings. It is urgently necessary to set up screens with high loading per unit area and capable of functioning under extreme climatic conditions. The development of sintering machines is now in the direction of increasing suction area, and this is best done by increasing the width as far as possible. In the USSR, Germany, and England, the width of powerful machines is 2.5 m. In nonferrous metallurgy, machines 3 m in width are used. Delivery of the charge to the pallet belt by both swinging and drum-type mixers requires buildings of great height. This shortcoming may be eliminated by use of shuttle feeders. For ores with clayey gangue and for fine ores, vibrating looseners working ahead of

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New Developments in Preparing Ore for the Blast Furnace

the charging of the mix onto the pallet belt are deserving of attention. Reduction of harmful suction leakage on pallet belts is accomplished in Germany by the use of a system of elastic rails and pallets made of cast iron, with removable steel sides. Belt coolers with forced air suction are in use in Germany to cool the agglomerate. Annular coolers are in wide use in the United States and England. Gravity-activated coolers of this type have not justified themselves in view of the low rate of cooling. As ore dressing has progressed, the problem of sintering fine-ground concentrates has become most pressing. Therefore, a method of double sintering of fine concentrates has come into wide use. The sintering of fine-ground material containing ~80% of the 0.06-0 mm fraction and 8-10% moisture is usually done in drums with a peripheral velocity of 60-80 m/min (in the USA) or 30-40 m/min (in Sweden). The resulting lumps, 22-32 mm in diameter, are roasted in shaft furnaces or in sintering machines specially equipped for this purpose.

F.K.

Card 2/2

ABRAMOV, V.S., kandidat tekhnicheskikh nauk; LEONIDOV, N.K., inzhener; ARUTYUNOV, N.B., inzhener; KRASAVTSEV, N.I., kandidat tekhnicheskikh nauk; GOKHMAN, Ye.V., kandidat ekonomicheskikh nauk; YABLONSKAYA, L.V., redaktor izdatel'stva; ATTOPOVICH, M.K., tekhnicheskiy redaktor

[Ferrous metallurgy of capitalist countries] Chernaia metallurgiia kapitalisticheskikh stran. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii. Pt. 2. [Preparation of ore for smelters and blast furnaces] Podgotovka rud k plavke i domennoye proizvodstvo. 1957. 493 p. (MLRA 10:4)

1. Russia (1923- U.S.S.R.) Ministerstvo chernoy metallurgiy. Tekhnicheskoye upravleniye. TSentral'nyy institut informatsii. (Blast furnaces) (Smelting)

AUTHOR: ABRAMOV,V.S., cand.tech.sc. PA - 2410

TITLE: New Methods of Investigation of Sintering Process. (Novyye metody issledovaniya aglomeratsionnogo protsessa, Russian).

PERIODICAL: Stal', 1957, Vol 17, Nr 3, pp 195 - 199 (U.S.S.R.)

Received: 5 / 1957 Reviewed: 5 / 1957

ABSTRACT: According to a new method worked out by the author and used to investigate the sintering-procedure the burden is agglomerated in a rectangular or circular pan on the sintering apparatus. With the aid of this method all the necessary data can be determined quickly. For the most important characteristic of the burden, its permeability to gases, a simple apparatus consisting of an thermoanemometer, fixed on a ring, is proposed. This indicator of permeability to gases should be used as donor for the automatic maintainance of the optimal humidity of the Möller. A simple method is indicated for a quick and simple determination of the dangerous leakage of air, according to which the amount of air, which has leaked through, is determined from the difference of the amount of gas in the collecting pipe, and that amount of gas, which originates from leakage through the burden. This amount of gas is duly determined by means of the thermoanemometer. The proposed method with detachable pans makes it possible to take out samples of burden for the current controls as well as to investigate the

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PA - 2410

New Methods of Investigation of Sintering Process.

behavior of the separate elements during the process of sintering. (7 illustrations and 2 citations from Slav languages).

ASSOCIATION: Central Scientific Research Institute for Iron-Production
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Card 2/2

ABRAMOV, V.S., referent

Baking iron-concentrate clots. Biul. TSNIICHM no. 8:50-51 '58.
(MIRA 11:7)
(Iron--Metallurgy)

KUSHENSKIY, K.S., inzh., laureat Stalinskoy premii; VERIGO, K.N., inzh.; ROSSMIT, A.F., inzh.: GOKHMAN, Ye.V., kand.ekon.nauk; ABRAMOV, V.S., kand.tekhn.nauk; SOSEDOV, O.O., otv.red.; PARTSEVSKIY, V.N., otv. red.; NURMUKHAMMDOVA, V.F., red.izd-va; BOLDYREVA, Z.A., tekhn.red.

[Ferrous metallurgy in capitalist countries] Chernaia metallurgiia kapitalisticheskikh stran. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu. Pt.7. [Iron ore mining and the dressing of ores] Zhelezorudnaia promyshlennost' i obogashchenie rud. 1960. 999 p. (MIRA 13:9)

1. Moscow. TSentral'nyy institut informatsii chernoy metallurgii. (Iron mines and mining) (Ore dressing)

ABRAMOV, V.S.; MIKHALEVICH, A.G.

Automatic control of the sintering process. Stal' 21 no.6:481-486 Je '61. (MIRA 14:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
(Sintering)
(Automatic control)

ABRAMOV, V.S.

Automatic control and regulation of the basic parameters of the sintering process. [Sbor. trud.] TSNIICHM no.29:32-43 '63.
(MIRA 17:4)

ABRAMOV, V.S.

Automatic determination of the output of a sintering machine and the amount of scrap returns. Stal' 24 no.2:112-116 F '64. (MIRA 17:9)

L 25602-66 EWT(1)/EWT(m) RO/RM

ACC NR: AP6016706 SOURCE CODE: UR/0079/65/035/012/2225/2229

AUTHOR: Barabanov, V. I.; Abramov, V. S.

ORG: Kazan' Veterinary Institute (Kazanskiy veterinarnyy institut)

TITLE: Interaction of phosphinic acids with aldehydes and ketones. XXVI. Esters of ethyl (methyl)-alpha-oxy-beta, beta, beta-trichloroethylphosphinic acid — analogs of chlorofos

SOURCE: Zhurnal obshchey khimii, v. 35, no. 12, 1965, 2225-2229

TOPIC TAGS: phosphinic acid, aldehyde, ketone, ester, chlorinated organic compound, alkyl group

ABSTRACT: The authors proposed to introduce an alkyl group in place of the alkoxy group on chlorofos to produce esters of alkylphosphinic acids with stronger insecticidal properties, or other physiological properties. The esters of alkylphosphinous acids, analogs of chlorofos, can be obtained by the action of chloral on the esters of phosphinous acids.
Thirteen new esters of ethylphosphinous and methylphosphinous acids were obtained, whose physical constants are presented. The general formula of the esters is (R)(R'O)P(O)(H), where R is either a methyl or ethyl group and R' is sec-C_5H_{11}, o-$ClC_6H_4CH_2$, C_6H_5, m-ClC_6H_4, 2,4-$Cl_2C_6H_3$, 2,4,6-$Cl_3C_6H_2$, p-$O_2NC_6H_4$, C_5H_{11}, sec-C_5H_{11}, ClC_6H_4

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L 25602-66

ACC NR: AP6016706

$(CH_3)(C_6H_5)CH$, $o\text{-}C_2H_5C_6H_5$, or $o\text{-}ClC_6H_4CH_2$.

The esters of ethylphosphinous and methylphosphinous acids react vigorously with chloral to form esters of ethyl-alpha-oxy-beta,beta,beta-trichlorethylphosphinic and methyl-alpha-oxy-beta,beta,beta-trichlorethylphosphinic acids. Forty of these white crystalline compounds were obtained and characterized.
According to preliminary data the esters of ethyl-alpha-oxy-beta,beta,beta-trichlorethylphosphinic acids possess miotic and insecticidal activity. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 25Dec64 / ORIG REF: 005 / OTH REF: 002

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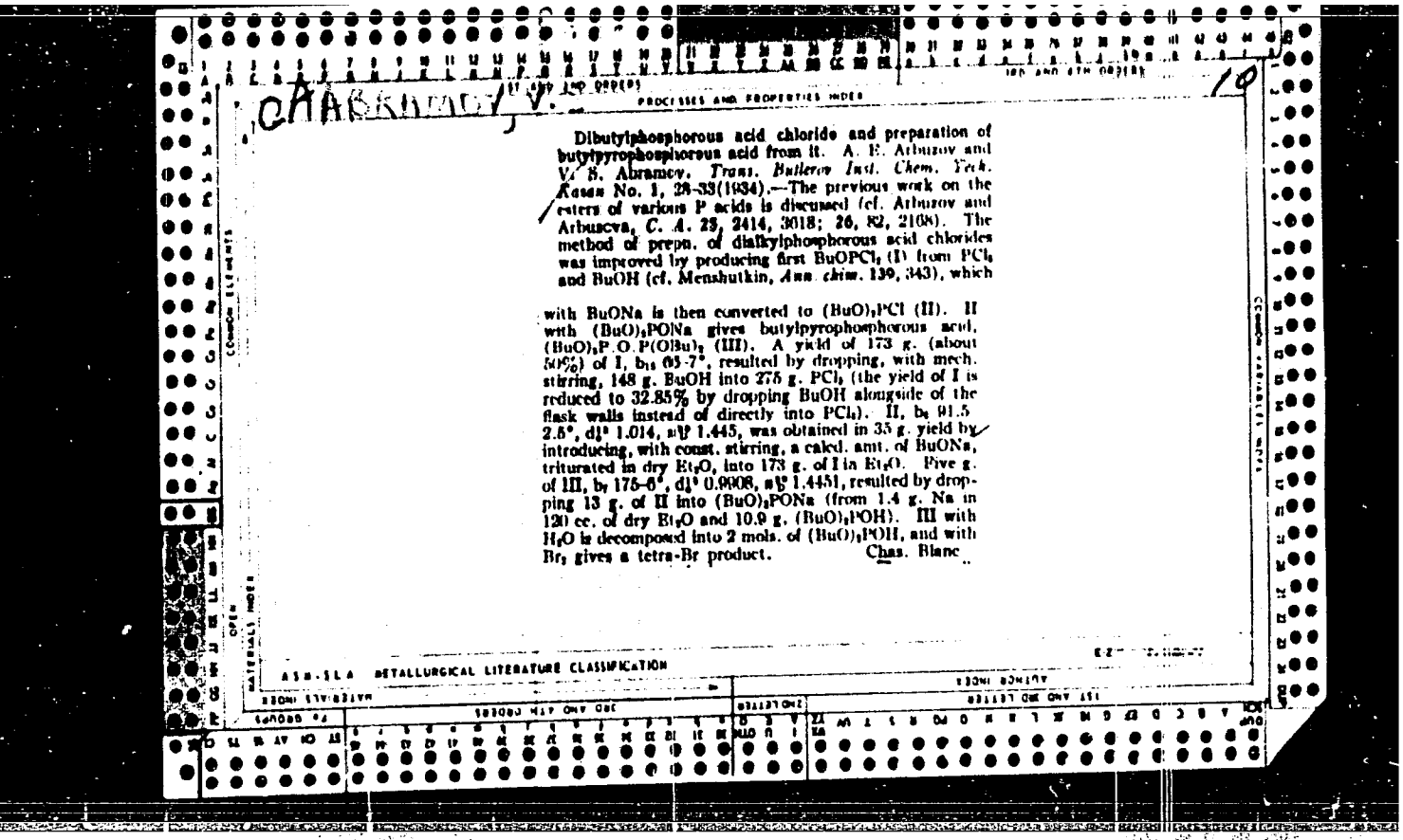


CHABROVA, V.

PROCESSES AND PROPERTIES INDEX

Dibutylphosphorous acid chloride and preparation of butylpyrophosphorous acid from it. A. E. Arbuzov and V. S. Abramov. *Trans. Butlerov Inst. Chem. Tech. Kazan* No. 1, 28-33(1934).—The previous work on the esters of various P acids is discussed (cf. Arbuzov and Arbuzova, *C. A.* **29**, 2414, 3018; **26**, 82, 2108). The method of prepn. of dialkylphosphorous acid chlorides was improved by producing first $BuOPCl_2$ (I) from PCl_3 and BuOH (cf. Menshutkin, *Ann. chim.* 139, 343), which with BuONa is then converted to $(BuO)_2PCl$ (II). II with $(BuO)_2PONa$ gives butylpyrophosphorous acid, $(BuO)_2P.O.P(OBu)_2$ (III). A yield of 173 g. (about 80%) of I, b_{14} 93-7°, resulted by dropping, with mech. stirring, 148 g. BuOH into 275 g. PCl_3 (the yield of I is reduced to 32.85% by dropping BuOH alongside of the flask walls instead of directly into PCl_3). II, b_5 91.5-2.5°, d_4^{18} 1.014, n_D^{18} 1.445, was obtained in 35 g. yield by introducing, with const. stirring, a calcd. amt. of BuONa, triturated in dry Et_2O, into 173 g. of I in Et_2O. Five g. of III, b_1 175-6°, d_4^{18} 0.9908, n_D^{18} 1.4451, resulted by dropping 13 g. of II into $(BuO)_2PONa$ (from 1.4 g. Na in 120 cc. of dry Et_2O and 10.9 g. $(BuO)_2POH$). III with H_2O is decomposed into 2 mols. of $(BuO)_2POH$, and with Br_2 gives a tetra-Br product. Chas. Blanc

A 5 8 - 5 L A METALLURGICAL LITERATURE CLASSIFICATION

ABRAMOV, V. S.; ARBUZOV, B.A.; DEVYATOV, YA. B.

"The Products of Condensation of Cyclones with p-Benzoquinone and Naphthoquinone", Zhur. Obshch. Khim., 9, No. 17, 1939. Laboratory of Organic Chemistry, Kazan' Chemico-Technological Institute imeni S. M. Kirov. Rec'd 22 Feb 1939.

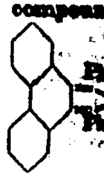
[redacted] Report U-1614, 3 Jan 1952.

ABRAMOV, V. S.

BC

13

Action of phencyclone on organo-magnesium compounds. V. S. ABRAMOV and P. G. MAIAKI (J. Gen. Chem. Russ., 1939, 9, 1533—[illegible]).—Phencyclone and MgRBr [illegible] phenanthrocyclopentadienols:



R = Ph, m.p. 255—257°, Et, m.p. [illegible], [illegible] m.p. 237—239°, [illegible] m.p. 264—265° (*hydrate*, m.p. [illegible]—150°). R.T.

Lab. of Organic Chemistry, Kazan' Chemico-Tech. Inst.

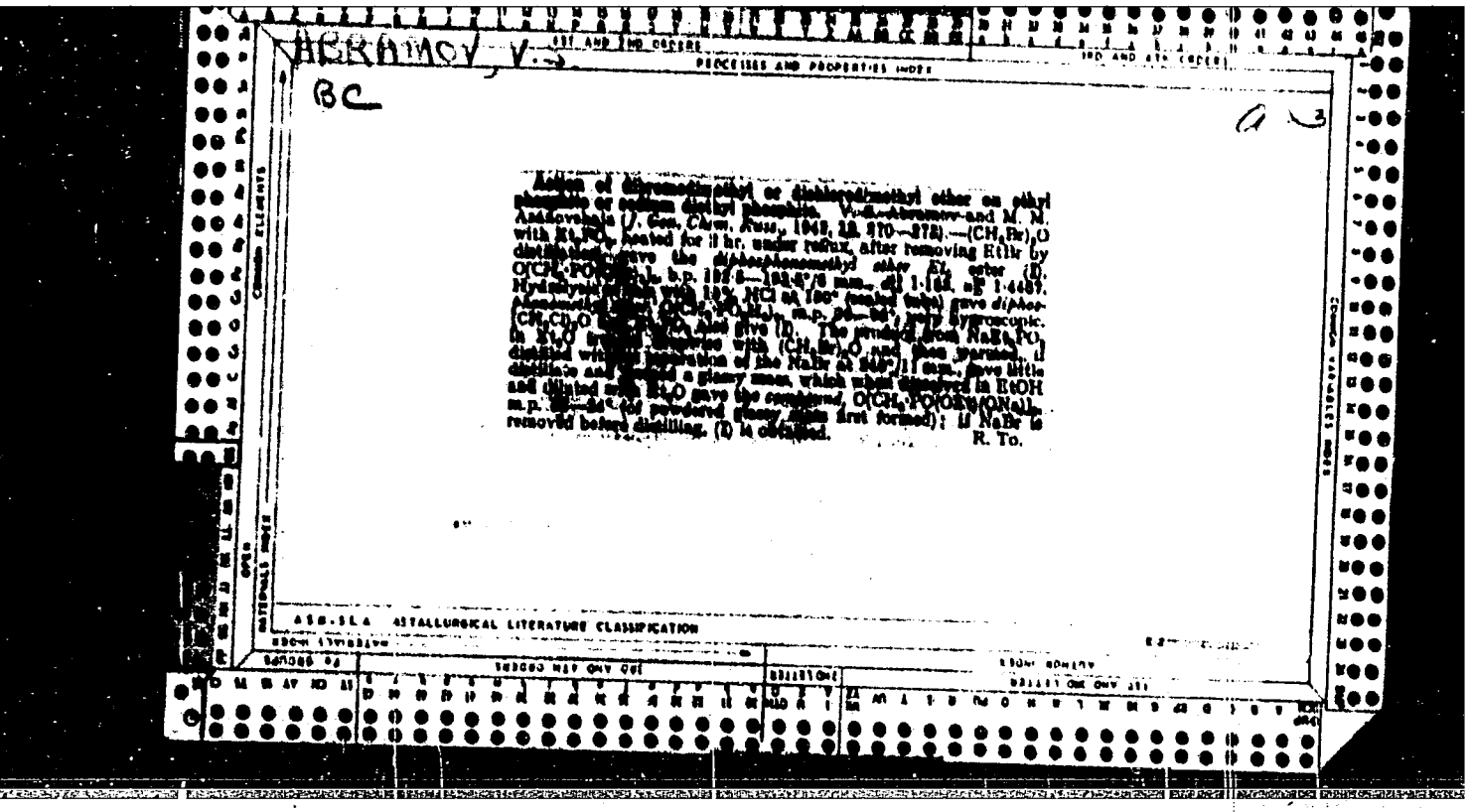
ASO-SLA METALLURGICAL LITERATURE CLASSIFICATION

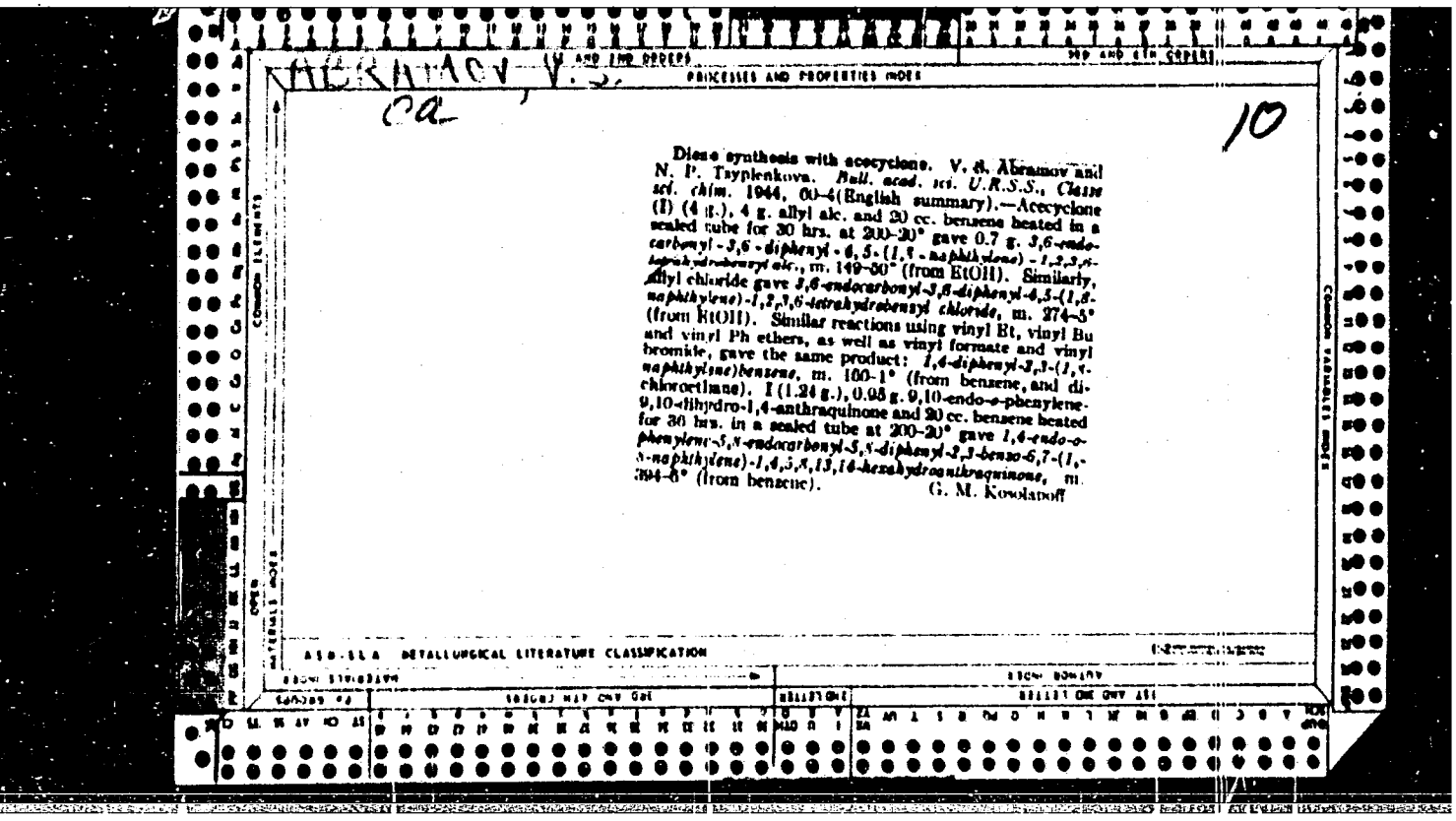
ABRAMOV, V. S.

CA

Reactions of cyclone. V. S. Abramov and Ts. L. Mitropolitanskaya. *J. Gen. Chem.* (U. S. S. R.) 10, 207-9(1940); cf. *C. A.* 34, 2809[5]. Condensation of 2 g. cyclone and 2 g. CH_2:$CHCH_2OH$ in 15 ml. of dry C_6H_6 in a sealed tube at 180-200° for 8 hrs. yielded 50.2% *3,6-endocarbonyl-3,4,5,6-tetraphenyl-4-cyclohexenyl-1-methanol*, m. 85-6° (alc.). The reaction with CH_2:$CHCH_2Cl$ gave 81% of the corresponding chloride, m. 115-18°. Under similar conditions cyclone reacts with CH_2:$CHCH_2Ph$ to give 88.5% *1,2,3,4-tetraphenyl-6-benzyl-5,6-dihydrobenzene*, PhC:CPh.CPh:CPh.CH_2.CH.CH_2Ph, m. 158-60°, and with styrene to give *1,2,3,4,5-pentaphenyl-1,6-dihydrobenzene*, m. 157-8°, dehydrogenated over Se at 300-20° to pentaphenylbenzene, m. 243-4° (240.7°, Dilthey *et al.*, *C. A.* 31, 2197[9]). Chas. Bl.

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION





ABRAMOV, V. S.

Ca

10

Diene synthesis with acecyclone. V. S. Abramov and N. P. Tsyplenkova. *Bull. acad. sci. U.R.S.S., Classe sci. chim.* 1944, 60–4(English summary).—Acecyclone (I) (4 g.), 4 g. allyl alc. and 20 cc. benzene heated in a sealed tube for 30 hrs. at 200–20° gave 0.7 g. *3,6-endocarbonyl-3,6-diphenyl-6,5-(1,2-naphthylene)-1,2,3,6-tetrahydrobenzyl alc.*, m. 149–50° (from EtOH). Similarly, allyl chloride gave *3,6-endocarbonyl-3,6-diphenyl-6,5-(1,8-naphthylene)-1,2,3,6-tetrahydrobenzyl chloride*, m. 274–5° (from EtOH). Similar reactions using vinyl Et, vinyl Bu and vinyl Ph ethers, as well as vinyl formate and vinyl bromide, gave the same product: *1,4-diphenyl-2,3-(1,8-naphthylene)benzene*, m. 100–1° (from benzene, and dichloroethane). I (1.24 g.), 0.95 g. 9,10-endo-*o*-phenylene-9,10-dihydro-1,4-anthraquinone and 20 cc. benzene heated for 30 hrs. in a sealed tube at 200–20° gave *1,4-endo-o-phenylene-5,8-endocarbonyl-5,8-diphenyl-2,3-benzo-6,7-(1,8-naphthylene)-1,4,5,8,13,16-hexahydroanthraquinone*, m. 304–6° (from benzene).

G. M. Kosolapoff

1ST AND 2ND ORDERS — PROCESSES AND PROPERTIES INDEX

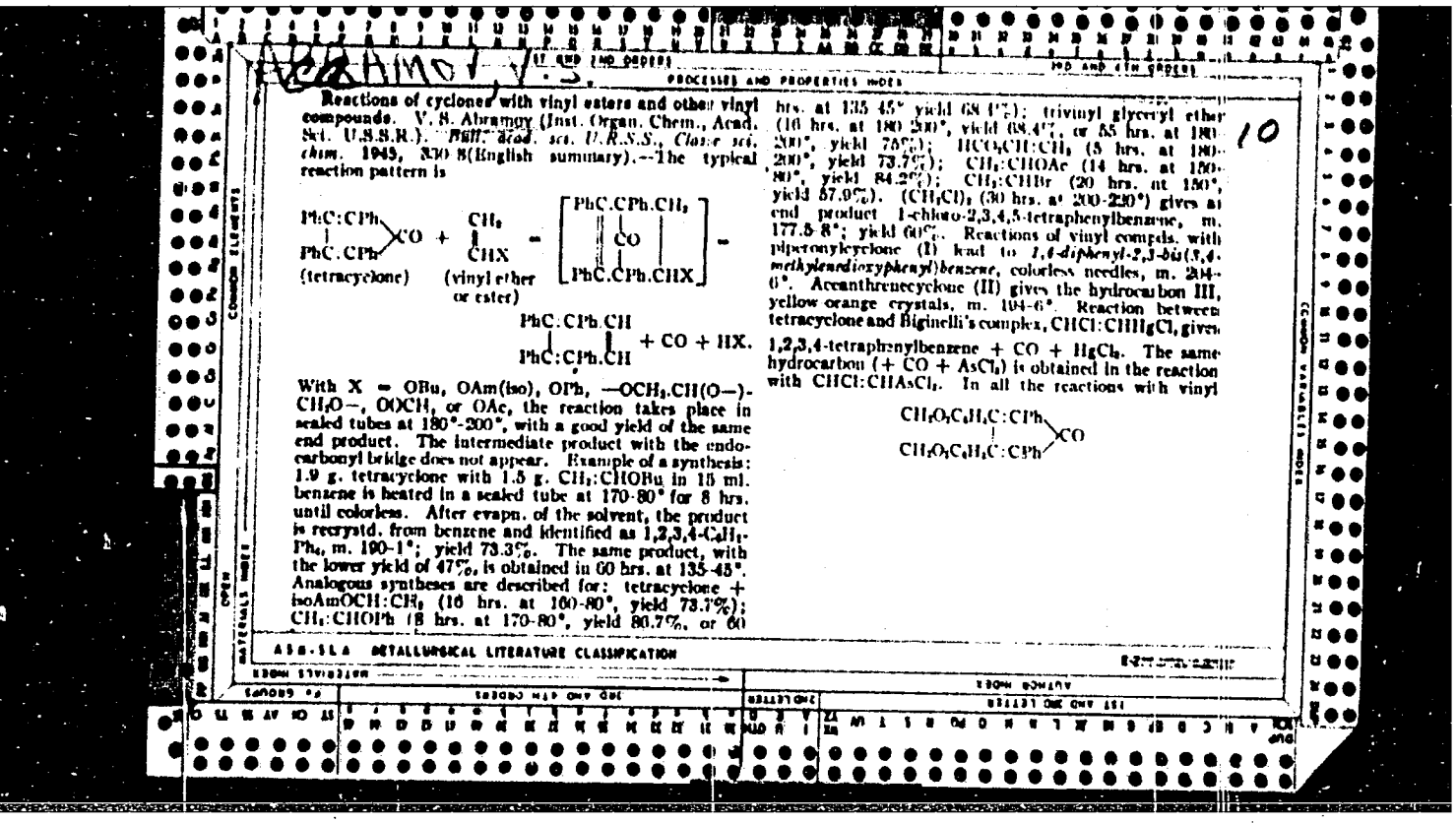
ABRAMOV V. S.

Reaction of halogen-substituted ethers with triethyl phosphite and with salts of diethylphosphorous acids. V. S. Abramov, E. V. Sergeeva, and I. V. Chelpanova (State Univ., Kazan). *J. Gen. Chem.* (U.S.S.R.) 14, 1030-7(1944).—ClCH$_2$OCH$_2$Ph (I) reacted in anhyd. ether with (EtO)$_3$P (II) to form (EtO)$_2$P(:O)CH$_2$OCH$_2$Ph (III), with the probable intermediate formation of (EtO)$_3$P-(CH$_2$OCH$_2$Ph)Cl. On heating to 120° for 4 hrs. in a sealed tube with 10% HCl, III was decompd. into EtCl, benzyl alc., and a water-sol., cryst. product, m. 84-5°, of empirical formula CH$_5$O$_4$P. Reaction of (EtO)$_2$PONa (IV) (cf. C.A. 37, 3048°) with I in anhyd. ether produced a mixt. contg. III and finely divided NaCl. According to one procedure, this mixt. was worked up by decanting the ether soln. from the NaCl and then distg. off the ether and finally III, a liquid b$_{11}$ 180-3°, n_D^{20} 1.4930, d_4^{20} 1.118. If, on the other hand, the ether was first distd. from the mixt. obtained by reacting I with IV without removing the NaCl and the resulting mixt. of III and NaCl was heated to 200° under 35 mm. pressure, then reaction occurred between III and the NaCl with formation of EtCl and NaO-(EtO)P(:O)CH$_2$OCH$_2$Ph (V), a glassy product not crystg. from the common solvents and m. 167-74° when powd. Similarly (EtO)$_2$POK reacted with (BrCH$_2$)$_2$O (VI) in the presence of dry ether to form O[CH$_2$P(:O)-(OEt)$_2$]$_2$ (VII) and KBr, which reacted with VII at 250-70° to give O[CH$_2$P(:O)(OEt)OK]$_2$, a glassy solid, m. 51-8° when powd. Completely analogous reactions produced V from BrCH$_2$OCH$_2$Ph (VIII) and IV. Formation of V was observed when III was mixed with NaBr and heated to 350° for 40 min. On heating a mixt. of VII and finely

divided NaBr (obtained on reacting VI with IV), there was formed O[CH$_2$OP(:O)(OEt)ONa]$_2$, a glassy product, m. 50-4°(?) when powd. The synthetic methods used to prep. III and V from IV were used to prep. (BuO)$_2$P(:O)CH$_2$-OCH$_2$Ph, b$_4$ 168-170°, n_D^{20} 1.4880, d_4^{20} 1.041, and NaO-(BuO)P(:O)CH$_2$OCH$_2$Ph, a glassy, hygroscopic solid. In these syntheses, either I or VIII was reacted with (BuO)$_2$PONa, prepd. by reacting Na with (BuO)$_2$POH.

J. W. Perry

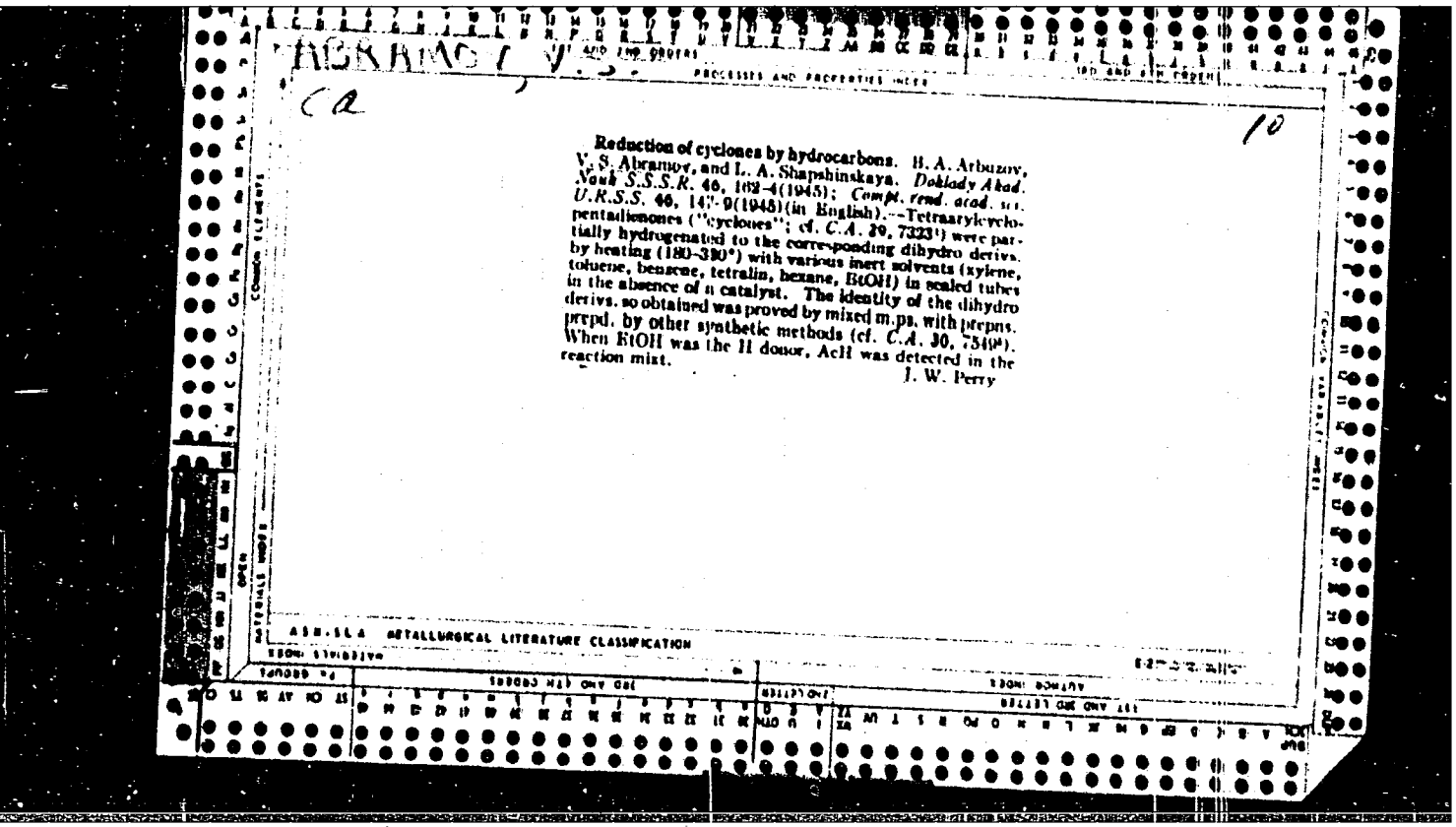
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



Reactions of cyclones with vinyl esters and other vinyl compounds. V. S. Abramov (Inst. Organ. Chem., Acad. Sci. U.S.S.R.). *Bull. Acad. sci. U.R.S.S., Classe sci. chim.* 1945, 330-8(English summary).—The typical reaction pattern is

(tetracyclone) (vinyl ether or ester)

With X = OBu, OAm(iso), OPh, —$OCH_2.CH(O—)CH_2O$—, OOCH, or OAc, the reaction takes place in sealed tubes at 180°-200°, with a good yield of the same end product. The intermediate product with the endocarbonyl bridge does not appear. Example of a synthesis: 1.9 g. tetracyclone with 1.5 g. CH_2:CHOBu in 15 ml. benzene is heated in a sealed tube at 170-80° for 8 hrs. until colorless. After evapn. of the solvent, the product is recrystd. from benzene and identified as 1,2,3,4-C_6H_2-Ph_4, m. 190-1°; yield 73.3%. The same product, with the lower yield of 47%, is obtained in 60 hrs. at 135-45°. Analogous syntheses are described for: tetracyclone + isoAmOCH:CH_2 (16 hrs. at 160-80°, yield 73.7%); CH_2:CHOPh (8 hrs. at 170-80°, yield 80.7%, or 60 hrs. at 135-45° yield 68.4%); trivinyl glyceryl ether (16 hrs. at 180-200°, yield 68.4%, or 55 hrs. at 180-200°, yield 70%); HCO_2CH:CH_2 (5 hrs. at 180-200°, yield 73.7%); CH_2:CHOAc (14 hrs. at 180-80°, yield 84.2%); CH_2:CHBr (20 hrs. at 150°, yield 57.9%). (CH_2Cl_2 (30 hrs. at 200-230°) gives as end product 1-chloro-2,3,4,5-tetraphenylbenzene, m. 177.5-8°; yield 60%. Reactions of vinyl compds. with piperonylcyclone (I) lead to *1,4-diphenyl-2,3-bis(3,4-methylenedioxyphenyl)benzene*, colorless needles, m. 204-6°. Acenanthrenecyclone (II) gives the hydrocarbon III, yellow orange crystals, m. 194-6°. Reaction between tetracyclone and Biginelli's complex, CHCl:$CHHgCl_2$, gives 1,2,3,4-tetraphenylbenzene + CO + $HgCl_2$. The same hydrocarbon (+ CO + $AsCl_3$) is obtained in the reaction with CHCl:$CHAsCl_2$. In all the reactions with vinyl



Reduction of cyclones by hydrocarbons. H. A. Arbuzov, V. S. Abramov, and L. A. Shapshinskaya. *Doklady Akad. Nauk S.S.S.R.* 46, 102–4(1945); *Compt. rend. acad. sci. U.R.S.S.* 46, 147–9(1948)(in English).—Tetraarylcyclopentadienones ("cyclones"; cf. *C.A.* 39, 7323[1]) were partially hydrogenated to the corresponding dihydro derivs. by heating (180–330°) with various inert solvents (xylene, toluene, benzene, tetralin, hexane, EtOH) in sealed tubes in the absence of a catalyst. The identity of the dihydro derivs. so obtained was proved by mixed m.ps. with prepns. prepd. by other synthetic methods (cf. *C.A.* 30, 7540[9]). When EtOH was the H donor, AcH was detected in the reaction mixt.

J. W. Perry